Synthesis of Glycerol Carbonate from Glycerol and Ethylene Carbonate by Using Immobilized Ionic Liquid Catalysts

조한준, 권혜미, 박대원*
부산대학교
(dwpark@pusan.ac.kr*)

Glycerol is formed as a byproduct during the manufacture of biodiesel by transesterification of oils with alcohol. With the increased expansion of biodiesel and the sharp decrease of glycerol prices, glycerol is expected to become a major platform chemical. Glycerol carbonate, which can be synthesized from glycerol, is a new and interesting material in the chemical industry. In this study, ionic liquid immobilized on mesoporous MCM41 were prepared and their catalytic performance was tested in the synthesis of glycerol carbonate from transesterification of ethylene carbonate with glycerol. The catalyst was characterized using a number of physico-chemical measurements including XRD, BET, ^{13}C and ^{29}Si MAS-NMR. Their catalytic performances were tested in a batch reactor. The influence of the structure of ionic liquid and reaction parameters like reaction temperature and time was investigated.